III. LISTING OF THE CLAIMS

All pending claims are reproduced below:

Claim 1. (Original): A method for automatically producing an optimal summary of a linear media source, comprising:

(a) parameterizing the linear media source to produce a parameterized media signal;

(b) creating a similarity array comprised of a plurality of array elements, wherein each array element includes the value of a similarity measurement between a first portion of the parameterized media signal and a second portion of the parameterized media signal;

(c) optimizing the value of a segment fitness function over the similarity array in order to find an optimal segment, wherein the segment fitness function is adapted to measure the similarity between a segment of the parameterized media signal and the entire parameterized media signal and is a mathematical function of at least a location of the segment; and

(d) selecting a portion of the linear media source as the optimal summary, the portion of the linear media source corresponding to the optimal segment.

Claim 2. (Original): The method of Claim 1, wherein Step (a) comprises:

separating the linear media source into a set of media frames;

applying a parameterization to each media frame in order to produce a feature vector representing each media frame; and

aggregating the feature vectors in order to produce the parameterized media signal..

Claim 3. (Original): The method of Claim 2, wherein:

the parameterization of a media frame includes a frequency domain transform.

Claim 4. (Original): The method of Claim 2, wherein:

the parameterization includes assigning a token value to a portion of the media frame.

Claim 5. (Original): The method of Claim 1, wherein Step (a) comprises:

reading a linear media data file containing the linear media source divided into a plurality of media frames, each media frame containing parameterized linear media information;

creating a feature vector for each media frame from the parameterized linear media information contained in each frame; and

aggregating the feature vectors in order to produce the parameterized media signal.

Claim 6. (Original): The method of Claim 1, wherein:

the similarity measurement comprises a measurement of vector similarity between a first feature vector corresponding to the first portion of the parameterized media signal and a second feature vector corresponding to the second portion of parameterized media signal.

Claim 7. (Original): The method of Claim 6, wherein:

the measurement of vector similarity comprises the Euclidean distance between feature vectors in parameter space.

Claim 8. (Original): The method of Claim 6, wherein:

the measurement of vector similarity includes the scalar (dot) product of the feature vectors.

Claim 9. (Original): The method of Claim 6, wherein:

the measurement of vector similarity includes the cosine of the angle between the feature vectors.

Claim 10. (Original): The method of Claim 6, wherein:

the measurement of vector similarity includes applying a Term-Frequency/Inverse Document Frequency weighting to the feature vectors.

Claim 11. (Original): The method of Claim 1, wherein:

the similarity measurement comprises a vector correlation of a first plurality of feature vectors corresponding to the first portion of the parameterized media signal and a second plurality of feature vectors corresponding to the second portion of the parameterized media signal.

Claim 12. (Original): The method of Claim 1, wherein:

the similarity array comprises a two dimensional matrix with each row and each column of the matrix corresponding to a portion of the parameterized media signal, such that each matrix element includes the value of a similarity measurement between a first feature vector, the first feature vector corresponding to the portion of the parameterized media signal associated with the row of the matrix element, and a second feature vector, the second feature vector corresponding to the portion of the parameterized media signal associated with the column of the matrix element.

Claim 13. (Original): The method of Claim 1, wherein:

the segment fitness function comprises the average similarity measurement of a portion of the similarity array, the portion of the similarity array containing a plurality of similarity measurements between a candidate segment and the entire parameterized media signal.

Claim 14. (Original): The method of Claim 13, wherein:

the segment fitness function further comprises a weighting function which emphasizes the similarity measurement for at least one portion of the parameterized media signal corresponding to a desirable portion of the linear media source.

Claim 15. (Original): The method of Claim 1, wherein Step (c) comprises:

optimizing the value of a segment fitness function using a one-dimensional optimization to find an optimal segment location for a segment of a predetermined length.

Claim 16. (Original): The method of Claim 1, wherein Step (c) comprises:

optimizing the value of a segment fitness function using a one-dimensional optimization to find an optimal segment length for a segment of a predetermined location.

Claim 17. (Original): The method of Claim 1, wherein Step (c) comprises:

optimizing the value of a segment fitness function using a two-dimensional optimization to find an optimal segment location and an optimal segment length.

Claim 18. (Original): The method of Claim 1, further comprising the steps of:

(e) removing the optimal segment from the similarity array to produce a modified similarity array;

(f) repeating Steps (b), (c), and (d) with the modified similarity array to produce a second optimal summary of the linear media source.

Claim 19. (Original): The method of Claim 1, wherein:

the linear media source includes video.

Claim 20. (Original): The method of Claim 1, wherein:

the linear media source includes audio.

Claim 21. (Original): The method of Claim 1, wherein:

the linear media source includes text information.

Claim 22. (Original): An article of manufacture including an information storage medium wherein is stored information, the information comprising:

a group of processor readable instructions adapted to operate on a processing device, wherein the group of processor readable instructions are adapted to operate the processing device according to the method of Claim 1.